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Thomas Werner

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EXAMINER

WEST, PAUL M

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Werner (2003/0056572).

3. Regarding claims 1 and 2, Werner teaches a method for detecting leaks in a heat exchanger having discrete flow paths 12 and 13, the method comprising introduction of helium detection fluid into flow path 12, allowing air to flow through the other flow path 13, and detecting detection fluid which has leaked from the flow path 12 to flow path 13 (Par. 0012, Figure). Werner does not teach passing the helium detection fluid in different directions. However it would have been obvious to one of ordinary skill in the art to pass the detection fluid in different directions because it would provide a greater chance of detecting very small leaks.

4. Regarding claims 3 and 10, Werner does not specify which flow path is the heat exchanger fluid flow path and which one is the working fluid flow path. It would have been obvious to pass the detection fluid through either flow path or both flow paths at different times because whether a leak exists from one to the other will be determined either way and the choice is arbitrary.

5. Regarding claims 4,11 and 12, Werner teaches passing the helium detection fluid through flow path 12 at a higher pressure than the air in flow path 13 (Par. 0012).

6. Regarding claim 5, Werner does not teach a specific concentration of helium, however it would have been obvious to one of ordinary skill in the art to use any number of helium and air mixtures which have enough helium to be able to be detected by a detector, because any number of mixtures produce the same results.

7. Claims 6-8 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Werner in view of Shanley (5,574,213).

8. Regarding claims 6-8 and 13-15, Werner teaches all of the limitations as set forth above but does not teach introducing a fluorescent dye into the detection fluid. Shanley teaches inspecting various apparatus for leaks, including heat exchangers (Col. 3, lines 46-50) using a detecting fluid comprising helium and a fluorescent dye (Col. 3, lines 31-45 and 60-66) which is passed into the apparatus being tested, and wherein leaks are detected by detecting the fluorescent dye with a fluorescent responsive detection means, such as a black light (Col. 3, lines 31-45).

Allowable Subject Matter

1. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

2. Claims 9,16 and 18 are allowed.

Response to Arguments

3. Applicant's arguments filed 9 April 2008 have been fully considered but they are not persuasive.

4. Applicant has argued that the passing of the detection fluid in two different directions is not obvious because there is no motivation to combine this limitation with the Werner reference. However, passing the test fluid in different directions is deemed to be obvious because it is merely a type of repetitive testing test. One of ordinary skill in the art would be motivated to perform repetitive testing in different directions because it provides more thorough results with less error.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL M. WEST whose telephone number is (571)272-8590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hezron E. Williams/